

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

|  |   |  |
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| Applicant's or agent's file reference<br>73169-126962                        | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.  | International filing date (day/month/year)<br>11 October 2000 (11.10.2000)  | Priority date (day/month/year)<br>12 October 1999 (12.10.1999) |
| PCT/US00/41164   |   |  |
| International Patent Classification (IPC) or national classification and IPC |   |  |
| IPC(7): H04L 27/06 and US Cl.: 375/344                                       |   |  |
| Applicant<br>ATHEROS COMMUNICATIONS, INC.                                    |   |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

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|--|--|
| Date of submission of the demand<br>07 May 2001 (07.05.2001)   | Date of completion of this report<br>25 July 2002 (25.07.2002) |
| Name and mailing address of the IPEA/US<br>Commissioner of Patents and Trademarks<br>Box PCT<br>Washington, D.C. 20231 | Authorized officer<br><i>[Signature]</i><br>Stephen Chin       |
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Form PCT/IPEA/409 (cover sheet)(July 1998)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/41164

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed.☒ the description:

pages 1-10 \_\_\_\_\_, as originally filed

pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☒ the claims:

pages 11-17 \_\_\_\_\_, as originally filed

pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☒ the drawings:

pages 1-5 \_\_\_\_\_, as originally filed

pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☐ the sequence listing part of the description:pages NONE \_\_\_\_\_, as originally filedpages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages NONE☐ the claims, Nos. NONE☐ the drawings, sheets/fig NONE5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/US00/41164**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

|                               |   |     |
|-------------------------------|---|-----|
| Novelty (N)                   | Claims 6-7, 9-14, 20-21, 23-30, and 32-35 | YES |
|                               | Claims 1-5, 8, 15-19, 22, 31, and 36-43   | NO  |
| Inventive Step (IS)           | Claims 6-7, 9-14, 20-21, 23-30, and 32-35 | YES |
|                               | Claims 1-5, 8, 15-19, 22, 31, and 36-43   | NO  |
| Industrial Applicability (IA) | Claims 1-43                               | YES |
|                               | Claims NONE                               | NO  |

**2. CITATIONS AND EXPLANATIONS**

Claims 1-5, 8, 15-19, 22, 31, and 36-43 lack novelty under PCT Article 33(2) as being anticipated by Scki et al. (US 5,694,389).

As shown in figure 5, Scki et al. disclose a device to be used in a communication system in which a first unit (transmitter) communicates with a second (receiver) using a common frequency, comprising:

- (1) regarding claims 1, 15, 31, and 36-43:  
means for detecting an offset (318, 320, and 312 in figure 5) between the common frequency used by the first unit (transmitter) and the second unit (figure 5) in a first signal (outputted from 316) transmitted by the first unit and received by second unit (receiver);  
means for adjusting the common frequency (303) in accordance with the offset in a second signal (outputted from 319) as claimed.
- (2) regarding claims 2 and 16:  
wherein the common frequency is a carrier frequency (abstract).
- (3) regarding claims 3 and 16:  
wherein it well known that the common frequency can be a sampling frequency.
- (4) regarding claims 4 and 18:  
wherein further comprising a correlator (318) as claimed.
- (5) regarding claims 5 and 19:  
wherein comprising means (303) for digital shifting data as claimed.
- (6) regarding claims 8 and 22:  
wherein further comprising a means (312) for locking onto the offset in the carrier frequency as claimed.

Claims 6-7, 9-14, 20-21, 23-30, and 32-35 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest the device further comprises a digital interpolating data to be transmitted in accordance with the sampling frequency and means for performing a variable delay as claimed.

----- NEW CITATIONS -----  
US 5,694,389 A (SEKI et al.) 02 December 1997, see figure 5.